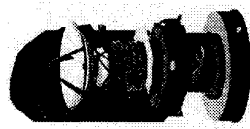
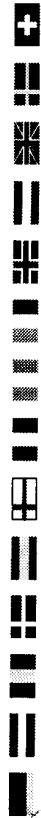
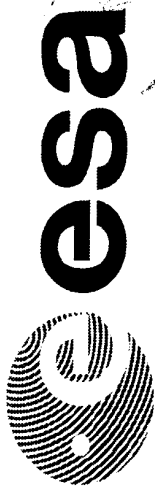




**FIRST/Planck**



**FIRST/Planck**  
**Commonality**  
**Steering Committee**  
**@ ESTEC (A1021)**  
**11.11.1998**



**FIRST/Planck**



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## **Commonality in FIRST/Planck**

Why?

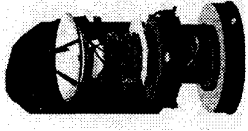
It is believed by the ESA FIRST/Planck project that commonality is of major importance as it

- Minimises duplication of effort
- Minimises cost (for instruments and s/c)
- Minimises development time and risk

ESA is taking the lead for the Instrument Commonality issues



**FIRST/Planck**



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## Commonality in FIRST/Planck

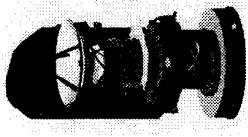
Who/where?

- Commonality among all/parts of the Instruments
- Commonality between Instruments and S/C
- Commonality between Instruments and the Ground Segment

Working groups defined to cover above areas



**FIRST/Planck**

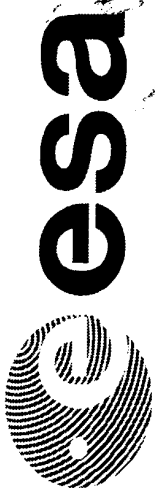


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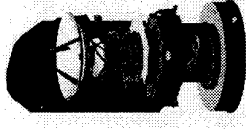
## **Commonality in FIRST/Planck**

Objectives of the first meeting of the Steering Committee

- Role
- Composition
- Interfaces/Reporting
- Working Groups composition and activity plan
- Confirmation of Instrument Commitment



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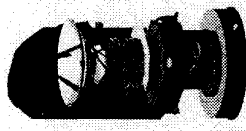
## Commonality in FIRST/Planck

### *Agenda*

1. Introduction
2. Steering Committee
3. Working Groups
4. Conclusions



**FIRST/Planck**



**Steering Committee - Members**

Chair : T. Passvogel (ESTEC/SCI-PT)

Secretary : P. Estaria (ESTEC/SCI-PT)

Planck HFI : J. Charra (IAS/Orsay)

Planck LFI : C. Butler (ASI/Rome)

FIRST HIFI : H. Aarts (SRON/Utrecht)

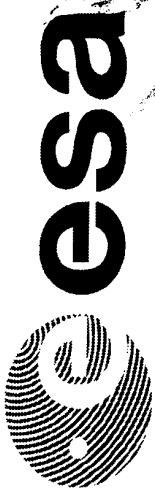
FIRST PACS : O. Bauer (MPE/Garching)

FIRST SPIRE : K. King (RAL/Didcot)



Planck PS : J. Tauber (ESTEC/SCI-SA)

FIRST PS : G. Pilbratt (ESTEC/SCI-SA)

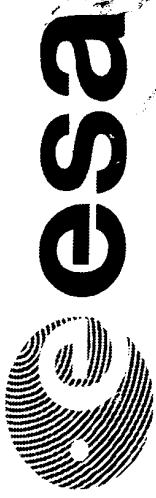


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## **Steering Committee - Role**

### **Role:**

- Approve mandates of the various WGs
- Approve composition of the various WGs
- Approve/request, as required, re-direction, merging, splitting of WGs
- Approve/request, as required, creation/deletion of WGs
- Request, as needed, Progress Reports from the WGs chairman
- Coordinate and supervise work of the various WGs
- Monitor WGs major milestones
- Resolve conflicts between WGs (technical issues, schedule, manpower etc.)
- Ensure, as required, communication between the various WGs (TBD)
- Assess WGs inputs and recommendations



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## **Steering Committee - Role / Means**

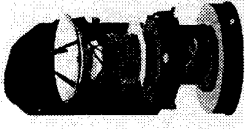
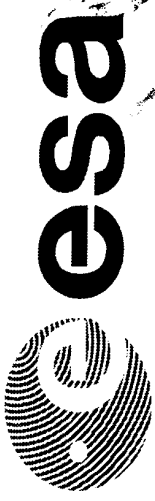
### **Role (cont'd):**

- Make recommendations to FIRST/Planck PM and PI's on Commonality issues (e.g. micro-processor selection, on-board S/W implementation, Instrument-to-spacecraft interfaces, etc.). *Note: this should include expected impacts in terms of technical feasibility, schedule and cost.*

### **Means:**

- Meets every 3-4 months at ESTEC
- Ad-hoc meetings, as required, called by Chairman
- Teleconferences as required
- Overall communication through WGs synthesis reports (one page) and MoMs posted on the SCI-SA DMS (Project area)
- No direct link with the Ground Segment Advisory Group (GSAG)





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**Commonality Working Group #1 - Members**

***Microprocessors and Components***

Chair : M. von Hoegen (ESTEC/SCI-PT)

Secretary : H. Schaap (ESTEC/SCI-PT)

Planck HFI : R. Pons (CESR)

Planck LFI : J.H. Herreros (IAC)

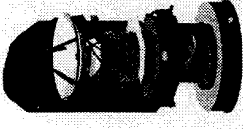
FIRST HIFI : H. Goulooze (SRON), R. Orfei (IFSI)

FIRST PACS : E. Renotte (CSL)

FIRST SPIRE : R. Orfei (IFSI), J.H. Herreros (IAC),  
H. Dzitko or V. Manguen (CEA)



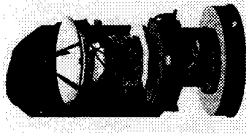
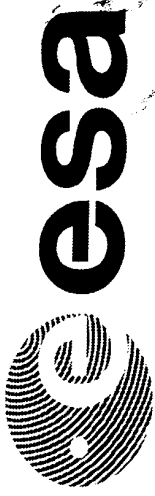
**FIRST/Planck**



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## Commonality Working Group #1

- Before one can call a WG on parts commonality it is requested that all users define their needs in format defined in ECSS-Q-60A, 19.04.1996
- Those lists will be reviewed by ESTEC and proposals for parts consolidation will be made within 4 weeks after arrival of lists. From then onward we can plan possible WG meetings

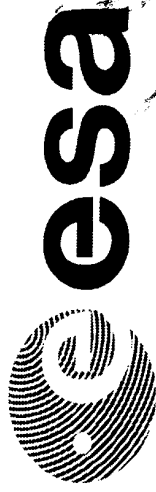


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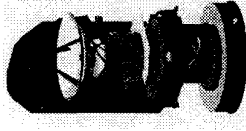
## Commonality Working Group #1

### Tasks

- Survey, evaluate and recommend common instrument microprocessors and electronic components (for DPU, SPU, ...)
- Evaluate and recommend corresponding S/W development environment (e.g. Compilers, programming languages, Linkers, Debuggers, etc.)
- Coordinate common parts procurement. (TBC)



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## **Commonality Working Group #2 - Members**

### ***Spacecraft Interfaces and H/W Simulators***

Chair : F. Vandenbussche (ESTEC/SCI-PT)

Secretary : H. Schaap (ESTEC/SCI-PT)

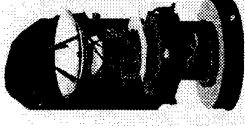
Planck HFI : J.L. Beney (LAL)

Planck LFI : J.H. Herreros (IAC)

FIRST HIFI : D. Beintema (SRON), R. Cerulli (IFSI)

FIRST PACS : H. Feuchtgruber (MPE)

FIRST SPIRE : R. Orfei (IFSI), M Carter (RAL)



## Commonality Working Group #2

Objectives: Define (pre-phase B) instruments to S/C interfaces in order to allow instrument design to proceed. Define “common” H/W simulators. Coordinate procurement of H/W simulators (TBC)

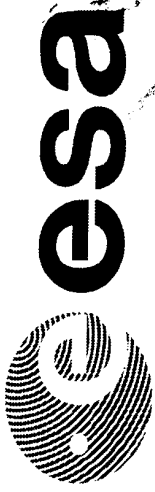
Start date: Kick-off meeting early January 1999

End date:

- Interface definition → Instrument design freeze
- Common H/W Simulator → TBD after I/F definition above
- Coordinated procurement of H/W Simulators: TBD

Link to satellite ITT:

The WG will have to consult Industry on its anticipated use of more or less standardised approaches for both Power, OBDH and other TBD interfaces



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## Commonality Working Group #2

### Liaison with other WGs:

#1 (Components) and #4 (Instrument Operations)

- Tasks:
- Identify interfaces to be handled by the WG
  - Identify possible interface approaches
  - Define selected interfaces in Project documentation (IID-A; IID-B)

### Tasks specifically excluded:

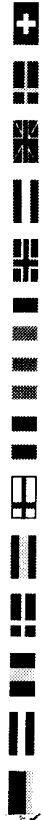
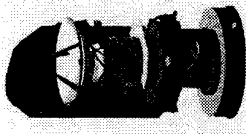
- ESA involvement in procurement of H/W

### Input required:

- Range and availability of nowadays ESA-preferred/used circuits
- Industry preferences for interface circuits
- Maximum anticipated data rate for OBDH circuits
- Maximum anticipated current rating for Power interfaces
- Definition of any interface other than Power and OBDH



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## Commonality Working Group #2

### Major Milestones:

- Kick-off meeting a.s.a.p.
- Definition of further actions and milestones
- Meeting schedule

### Expected deliveries:

- Timely definition of Power and OBDH interfaces
- Timely definition of any other interfaces

### Overall implementation plan:

TBD

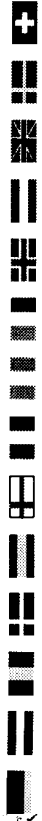
### Any other useful information:

TBD



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## Commonality Working Group #7 - Members

### *Other H/W Common Elements*

Chair : T. Passvogel (ESTEC/SCI-PT)

Secretary : H. Schaap (ESTEC/SCI-PT)

Planck HFI : NN

Planck LFI : J.H. Herreros (IAC)

FIRST HIFI : D. Beintema (SRON)

FIRST PACS : R. Katterloher (MPE)

FIRST SPIRE : NN





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## WG #7 - Activity Plan/Milestones

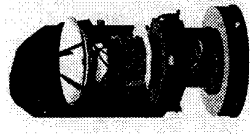
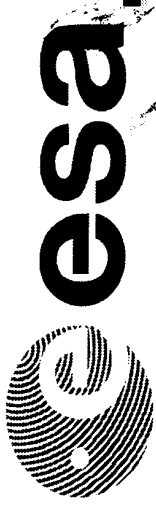
Kick Off Meeting : a.s.a.p. - to be arranged

List of activities : K.O. + 1 month

Milestone Plan : K.O. + 1 month

Working Group : every 4 months

Commonality meetings : TBD on selected items



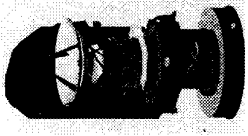
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## **WG #7 - Tasks**

- Identification of Common activities/items
- Subgroup approach for bi/tri-instrument commonality
- Items identified:
  - Common Test facilities (cryo vibration)
  - Straylight approach
  - Contamination
  - Common choppers



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**Commonality Working Group #3 - Members**

**RTA/QLA**

Chair : A. Heras (ESTEC/SCI-SA)

Secretary : P. Estaria (ESTEC/SCI-PT)

Planck HFI : B.G. Cougrand (IAS)

Planck LFI : C. Butler (ASI)

FIRST HIFI : P. Roelfsema (SRON), A. di Giorgio (IFSI)

FIRST PACS : O.H. Bauer, E. Wiezorrek (MPE)

FIRST SPIRE : R. Warren-Smith (RAL), R. Gastaud (CEA)

# Commonality Working Group # 3 (RTA/QLA)

## Objectives:

- To find a common concept for RTA(Real Time Assessment)/QLA(Quick Look Analysis) and a common approach for its development.

## Assumptions:

- The RTA/QLA S/W will be used for monitoring the instrument status and performance during instrument tests, system tests, and in-flight operations.
- It must accommodate different kinds of instruments, users and environments.

Start date for WG activities: January-February 1999

End date for WG activities: December'2006 (GS readiness review)

Liaison with other WGs: WG#4 and WG#6

#### List of tasks

- Define common and instrument specific elements in RTA/QLA.
- Define user requirements for RTA/QLA common elements.
- Define interfaces between common and non-common part, and with external elements (e.g. FINDAS, uplink, Off-Line Processing).
- Coordinate and supervise implementation and agree delivery dates.
- Define and supervise Acceptance Tests and generate Test reports.
- Define Instrument station H/W.

#### Tasks specifically excluded

- Instrument specific QLA user requirements definition and testing (but for performance and interfaces).

### Major milestones

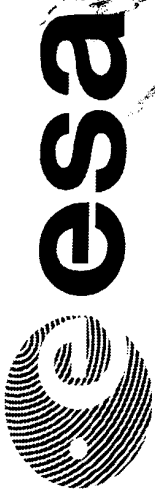
- Review and agreement of URD V1 and H/W configuration ⇒ Jan 2000
- Implementation plan ⇒ Feb 2000
- Delivery and Acceptance Test of RTA/QLA V1 ⇒ Jan 2002
- Review and agreement of URD V2 (operational requirements) ⇒ Dec 2004
- Delivery and Acceptance Test of RTA/QLA V2 ⇒ Jan 2006

### Inputs required

- Schedules and Test Plans (required for the Implementation Plan)
- Interface documents
- Operations documents (required before the URD V2 review)
- Scientific data quality control concept (required before the URD V2 review)

### Expected deliveries

- RTA/QLA URD (for common parts), SRD and ADD/DDD
- Implementation plan
- Acceptance Test Plan and corresponding Test reports for each agreed version
- Instrument Stations H/W configuration document
- RTA/QLA S/W
- RTA/QLA history files descriptions
- Progress reports



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**Commonality Working Group #4 - Members**

***Instrument Operations and On-Board S/W***

Chair : F. Vandenbussche (ESTEC/SCI-PT)

Secretary : P. Estaria (ESTEC/SCI-PT)

Planck HFI : J. Charra (IAS)

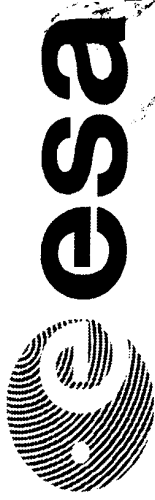
Planck LFI : TBD (Laben)

FIRST HIFI : P. Roelfsema (SRON), R. Cerulli (IFSI)

FIRST PACS : H. Feuchtgruber (MPE)

FIRST SPIRE : D. Pike (RAL)





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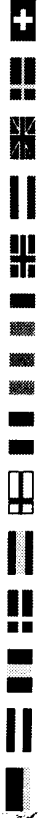
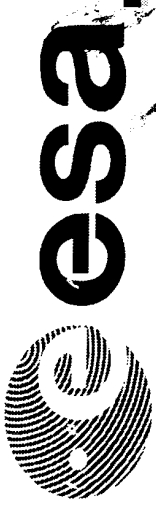
## **Commonality Working Group #4**

**Kick-Off:** January 1999

**End:** AVM delivery: January 2003

**Main Tasks:**

- Define Task allocation between DPU and SPU (SPIRE, PACS, LFI)
- Define DPU-SPU H/W and S/W Interfaces (WG#2)
- Identify S/C-related services required (OTF, pointing, other.. (WG#2)
- Define SPU low-level and high-level “common” functions
- Define DPU low-level and high-level “common” functions
- Define Autonomy requirements/functions - “common”
- Define Autonomy requirements/functions - instrument specific
- Define Commanding Scheme
- Define Memory load/dump / verify scheme
- Define common scheme for TM & RT pocket definition (WG #3)



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## **Commonality Working Group #4**

### **Main Tasks (cont'd):**

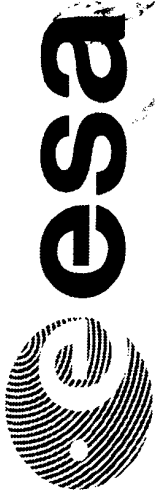
- Review “common” URDs
- Monitor on-board S/W implementation
- Define & supervise Acceptance Tests

### **Initial Inputs required:**

- OIRD (comments overdue !)
- Status Report IFSI
- Status Report IAC

### **Questions/Problems: is list of tasks relevant? complete? too ambitious?**

- Is the group structure adequate (no IAC rep. - no IN2p3 rep.)
- Can we establish a credible schedule of activities
- Is merging with WG #5 desirable? (amount of work will not decrease!)
- Late start of Phase B
- Level of resources + commitment (Vandenbussche, Estaria, Roelfsema, Charra)



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## **Commonality Working Group #5 - Members**

### *Operations and Test Language*

Chair : P. Estaria (ESTEC/SCI-PT)

Secretary : H. Schaap (ESTEC/SCI-PT)

Planck HFI : F. Pajot (IAS)

Planck LFI : TBD (Laben)

FIRST HIFI : P. Roelfsema (SRON), S. Pezzuto (IFSI)

FIRST PACS : H. Feuchtgruber (MPE)

FIRST SPIRE : NN



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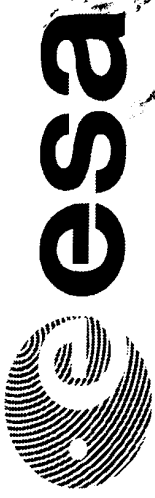
## Commonality Working Group #5

Kick-Off: Mid-2000

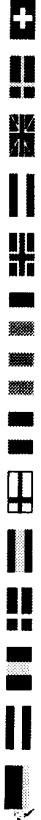
End: December 2006 (Ground Segment Readiness Review)

Main Tasks (short to medium term):

- Define overall testing philosophy (bench level → Instrument Level → System Tests → Commissioning → PV → Routine)
- Define “common” symbolic Instrument Control Language (ISO-based ?) + Translator
- Define “common” (H/W and S/W) interfaces between Testing Facilities and EGSE (WG #2)
- Define “common” interfaces with FINDAS/IDIS (WG #6)
- Test and Operations Language definition? (Rosetta? EGSE Contractor)



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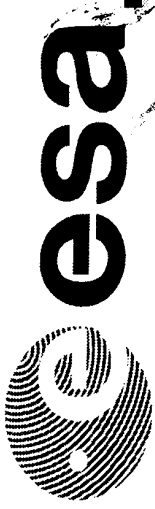


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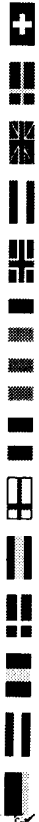
## Commonality Working Group #5

### Questions / Problems:

- Is the list of tasks relevant?
- Is the list of tasks complete?
- Group membership (need ESOC! - need SCI-SA!)
- No EGSE contractor on board until 2001



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## **Commonality Working Group #6 - Members**

### ***FINDAS and IDIS***

Chair : P. Claes (ESTEC/SCI-SA)

Secretary : NN

ESA : G. Pilbratt, J. Tauber, K. Bennet, P. Estaria

Planck HFI : R. Gispert (IAS)

Planck LFI : F. Pasian (IAS)

FIRST HIFI : P. Roelfsema (SRON), P. Andreani (IFSI)

FIRST PACS : O.H. Bauer (MPE), R. Huygen (KUL)

FIRST SPIRE : A. Harwood (RAL), M. Sauvage (CEA)

## WG #6: FINDAS and IDIS

### FIRST/Planck CWG Steering Committee meeting

11 November 1998

Göran L. Pilbratt

ESA Astrophysics Division, Space Science Department

#### List of tasks:

- Description and comparison of user requirements
- Mutual exchange of 'lessons learned' from FINDAS prototype and IDIS definition work
- (Re-)assessment of architectures to identify (and increase?) commonalities
- (Re-)assessment of communication needs
- Definition of a set of requirements for potential subsystem commonalities
- Set up a suitable mechanism for exchange
- Definition of a Planck user community FINDAS interface
- Mutual usage requirements, purpose, practical implementation, etc.

#### List of excluded tasks:

- TBD

#### Objectives:

- To identify areas where cross-fertilisation can help both FINDAS and IDIS
- To implement a mechanism to foster exchange and/or cooperation for mutual benefit

#### Assumptions:

- FINDAS is an ESA undertaking for FIRST, IDIS is a PI undertaking for Planck
- Both have a core infrastructure and specific applications
- Interfaces (at least) at Planck levels 1 and 4
- WG members should be active developers

#### Dates:

- Formal start date after FINDAS prototype evaluation, and further IDIS definition
- Bulk of work expected in period late 1999 to 2001/2002

#### Major Milestones (dates TBC):

- 1 November 1999: FINDAS and IDIS URD review/comparison
- 1 February 2000: FINDAS and IDIS ARD review/comparison
- 1 September 2000: Inputs FINDAS and IDIS ICD
- 2001/2 timeframe: 'Mid-term' WG report
- Ground Segment Readiness review: Final report

#### Deliverables:

- FINDAS and IDIS URD review/comparison conclusions and recommendations
- FINDAS and IDIS ARD review/comparison conclusions and recommendations
- FINDAS and IDIS ICD inputs
- 'Mid-term' and Final WG reports



# esa

## FIRST/Planck



WG #	ESA Chair	ESA Secretary	Planck HFI	Planck LFI	FIRST HIFI	FIRST PACS	FIRST SPIRE
SC	T. Passvogel	P. Estaria	J. Charra	C. Butler	H. Aarts	O. Bauer	K. King
1	<del>M. van Hoogen</del>	H. Schaap (G. H. H. H.)	R. Pons	<del>J.H. Herrerias</del> NN	<del>H. Gourouze</del> <del>R. Cerulli</del>	E. Renotte	<del>R. Carter</del> H. Dzitko V. Manguen
2	F. Vandenbussche	H. Schaap	J.L. Beney	J.H. Herrerias	D. Beintema R. Cerulli	H. Feuchtgruber	<del>R. Carter</del> M. Carter
<del>7</del>	<del>T. Passvogel</del>	<del>H. Schaap</del>	<del>NN</del>	<del>J.H. Herrerias</del>	<del>D. Beintema</del>	<del>R. Feuchtgruber</del>	<del>NN</del>
3	A. Heras	(P. Estaria)	B.G. Cougrand (TSC) NN	C. Butler	P. Roelfsema A. di Giorgio	O. Bauer E. Wierorrek	R. Warren-Smith (TSC)
4	F. Vandenbussche	P. Estaria	J. Charra NN	<del>R. Tauber</del> S. A. S. + NN	P. Roelfsema R. Cerulli	H. Feuchtgruber	D. Pike + NN
5	P. Estaria	H. Schaap	F. Pajot	TBD (Laben)	P. Roelfsema S. Pezzuto	H. Feuchtgruber	NN
6	P. Claes	NN (G. Pilbratt J. Tauber K. Bennet P. Estaria)	R. Gispert	F. Pasian	P. Roelfsema P. Andreani	O. Bauer R. Huygen	<del>A. Harwood</del> <del>M. Sauvage</del> R. Warren-Smith

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H/b  
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